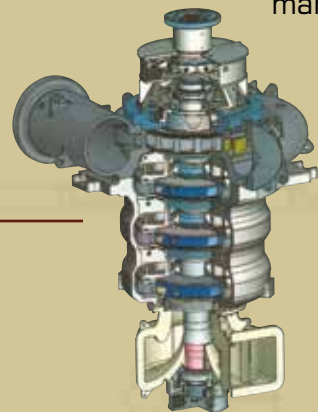


The **Mechanical Engineers** prepare design, perform engineering calculations, size equipment, prepare technical specifications and design drawings review technical calculations and shop drawings submitted by contractors and provide technical leadership in



manufacturing, installation, testing, and commissioning of mechanical equipment used at hydroelectric facilities. The

mechanical engineering

staff have access to state-of-the-art engineering tools such as finite element analysis programs and 3-D modeling tools as well as HVAC design programs for building load calculation and duct sizing.



STATE OF CALIFORNIA  
Department of Water Resources

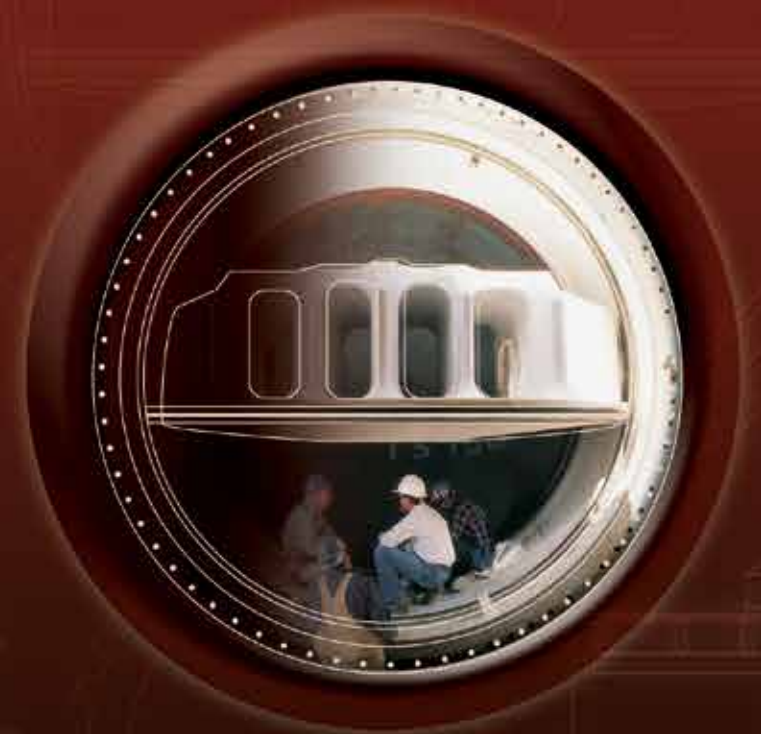
1416 9th Street  
Sacramento, CA 95814

[www.water.ca.gov](http://www.water.ca.gov)

Department of Water Resources

**CAREER OPPORTUNITIES**

# Mechanical Engineering



Cover Photo: Butterfly Valve



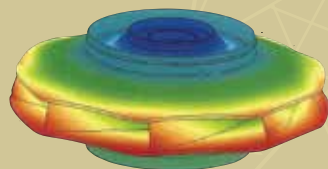
# Mechanical Engineering

**Department of Water Resources (DWR) encourages and provides opportunities for its engineers to improve their technical and management skills by attending training classes as part of their continuing education program. DWR's engineers have taken these opportunities to improve their skills and acquire new skills while working on exciting, high profile and challenging projects. Your work experience counts toward the time required to obtain your California Professional Engineer license.**

## **Mechanical Engineering**

Mechanical Engineers have played a key role in the ongoing expansion and reliability of the State Water Project (SWP). Mechanical Engineers are charged with the design, manufacture, installation, testing, commissioning and maintenance of the SWP's pumps, turbines, cranes, slide and radial gates, valves, piping, HVAC and numerous other mechanical systems at hydroelectric facilities.

Many of the Department of Water Resources' pump, turbine, and valve manufacturers are located outside of the United States, which necessitates that the mechanical engineering staff work with counterparts around the world, including renowned engineers and experts. Such international collaboration coupled with the Department's continuing education



program provides mechanical engineers with valuable new skills and knowledge not available in other engineering organizations while engaging in exciting, high profile, and challenging projects.

### **Mechanical engineers have access to state-of-the-art engineering tools including:**

- Finite element analysis programs
- 3-D modeling tools
- 3-D drafting program
- Head loss calculation program for pump sizing
- Building load calculation program for HVAC sizing
- HVAC duct sizing program



### **Mechanical engineers perform a variety of jobs:**

- Preparing design and engineering calculations
- Sizing and selection of equipment
- Preparing technical specifications
- Creating design drawings
- Reviewing contractors' technical calculations and shop drawings
- Performing field inspections of the mechanical installations
- Providing technical assistance in manufacturing, installation, testing, and commissioning of mechanical equipment.